

# GOUTAM SEN

ASSISTANT PROFESSOR

DEPARTMENT OF INDUSTRIAL & SYSTEMS ENGINEERING, IIT KHARAGPUR

## CONTACT

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## TEACHING

- Theory courses: Operations Research (UG), Production Planning & Control (UG), Work Systems Design (UG & PG)
- Lab Courses: Operations Research Lab (UG), Optimization and Heuristic Methods Project (UG), Information Systems Project (PG), Simulation Lab (UG), Work System Design and Virtual Reality Lab (UG & PG)

## SPECIALIZATION

- LARGE SCALE OPTIMIZATION
- TRANSPORTATION AND LOGISTICS

## RESEARCH

### Publications

Combinatorial optimization problems are frequently encountered in a variety of applications including telecommunications, computer networks, transportation, supply chain and logistics. They are often hard to solve due to the presence of integer variables. Commercial software like CPLEX cannot solve these problems for realistic and large instances unless problem-specific algorithms are developed and integrated to their default functions. My research is focused on developing large scale algorithms for such problems, and, in particular, by hybridizing concepts from optimization, machine learning, heuristics/metaheuristics, graph theoretical approaches and some AI techniques such as constraint programming.

The findings have appeared in international journals, e.g. Computers & Operations Research, Networks, Annals of Operations Research, Interfaces (INFORMS), Computers & Industrial Engineering, Applied Intelligence, etc. For details, please visit my Scopus profile: <https://www.scopus.com/authid/detail.uri?authorId=56228335200>

### Projects

Start-up research grant (SERB), Matrics (SERB), CISCO University Research Grant, DRDO CARS grant, ISRO RESPOND grant

### PhD Guidance

#### Completed:

Sukanya Samanta (2023): Models and Algorithms for Escape Interdiction Problems

#### Ongoing:

Imran Haider: Models and algorithms for aircraft schedule recovery problem

Deepak Kushwaha: Models for aerial transportation in military logistics

Ayush Sharma: Freight train management in railways

## EDUCATION

### PhD (Operations Research)

2009-2015

Indian Institute of Technology Bombay, and Monash University, Melbourne, Australia ([www.iitbmonash.org](http://www.iitbmonash.org))

### BTech (Computer Sc.&Engg.)

2004-2008

Kalyani Govt. Engineering College

BTP carried out at CVPR Unit, ISI, Calcutta